Transitioning from research slave to research scientist: an ecologist's perspective on navigating the post-graduate landscape

or

How to Find a Job!!

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Post hoc vs Post-Doc

The Post hoc Fallacy
To incorrectly assume "A" is the cause of "B" just because "A" preceded "B".

e.g. "All Professors have Ph.D.'s, therefore getting a Ph.D. means you'll get a Professor job (right?)"

The Post-Doc Fallacy
To incorrectly assume you'll have a job just because you have a PhD.

e.g. "Now what??"

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Outline

• Game Plan
• Information and Funding Sources
• Networking
• Postdoc Life
• Faculty Applications and Interviews
Game Plan

1. Summer of last year
   - Set-up web portfolio: http://web.unc.edu
   - Go to conference present orally
   - Develop a project proposal (2-year scope)
   - Identify potential postdoc mentors
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   - Weekly scan of ListServ and Internet lists
   - If faculty bound: build and submit job packet
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3. Spring of last year
   - Defend Dissertation
   - Register again for summer conference – need to create a buzz!
   - Look into backup plans
Information Sources

• http://mcglinn.web.unc.edu/postgradbiology

• Postdoc Jobs:
  – ESA Physiological Ecology Section lists
  – Ecolog listserv

• Asst. Prof. and Other Jobs:
  – Central Job Wiki for all of Biology
  – ESA Physiological Ecology Section
  – Chronicle of Higher Ed
Funding Sources

• Centers of Scholarship
  – NESCent, NIMBios, MBI, the list goes on…

• Post-doctoral fellowships
  – NSF, NIH, non-profit agencies

• Individual scholars/groups
  – Most common source of funding usually 1-3 years of funding

• Teaching Postdocs / Sabbatical Replacements
Networking 101

1. Identify researchers who are relevant to you

2. Contact them via email
   – Before a conference
   – To pass on your recent pub

3. Contact them face-to-face
   – Interact with invited speakers
   – Introduce yourself to people at a conference
   – Go out for dinner and drinks, unless you give talk next morning
Networking 101

It's a small world, don’t burn bridges, have fun be yourself
Why Do A PostDoc?

• It’s Exciting!
  – 2-year stint to study with another expert
• Many faculty jobs require PostDoc experience
• Great way to develop another dimension of your research
• Gives you time to publish more papers and look for a more permanent job
Postdoc Research Proposals

• Why is this important?
  – Could result in money, independence, and accolades
  – Forces you to develop concrete research plans
  – A tool for communicating with potential postdoc mentors

• Needs to be targeted
  – What is the granting agency looking for
  – What direction do you want to take your work
  – Should build off your current skills & help you develop new ones

• Look for help
  – See other successful proposals
  – Use a lab meeting as a forum for proposing your idea
  – Don’t wait until the last minute to submit an NSF/NIH proposal!!
PostDoc Interview

• Typically a phone interview
• Have a succinct blurb about your dissertation or each chapter if they wish to know more depth
• Emphasize your strengths and why you are interested in working with them
• Outline your broader goals as well as the specific project you would like to work on with them
Try to Avoid the in House PostDoc

How Mike Slackernerny finally gets a job:

- Have you found a job yet?
  - No.

Do you want to be my postdoc?

Sure.

(We didn't say it was a real job)
Making the Most of your PostDoc

• 1st Year:
  – Submit any remaining dissertation chapters
  – If invited, give talks
  – Keep pulse of job market
  – Put together your job packet

• 2nd Year:
  – Submit, Submit, Submit!
  – Work at gaining experience in areas where you are lacking (e.g., teaching experience)
Expectations of PostDocs

• Different than for graduate students
  – You’re a Big Kid Now!!
• Expected to be a mentor for others in the lab and colleague (on an intellectual level) with your boss
• Typically expected to be in the lab 9-5, but pull long hours when needed
• Dress is a bit less casual, but this really depends on your lab and department
PostDoc-Mentor Relationship

• After the initial tingling sensations of getting going with a new person have worn off its time to get down to work.

• The keys
  – Good Communication & Clear Expectations
    • Use Lab wiki to post results
    • Weekly 1-on-1 meetings / Semester Progress Reports
  – Focus and Follow-Through
    • Don’t change project ideas too quickly but don’t beat a drum that your boss is clearly not interested in
Faculty Application Packet

• Definitely consists of:
  – Cover letter
  – CV
  – Research Statement
  – Teaching Philosophy
  – 3 letters of recommendation

• May also consist of:
  – Relevant Publications
  – Evidence of Teaching Effectiveness
  – Other online forms
1 September 2010

Dr XXX XXXXXX
Chair, Appointments Committee
School of Biology
University of XXXXXXX
Street Address

Dear Dr XXXXX,

I am writing to apply for the XXXXX in Biology at the University of XXXX. I received my Ph.D. in plant sciences from Oklahoma State University in July 2009, and I am currently a postdoctoral research associate in the Department of Biology at the University of North Carolina in Dr. Allen Hurlbert’s laboratory. In this letter I detail my motivations and qualifications for this position. Additional details on my experience, goals, and philosophy of research and teaching can be found in the accompanying statements and curriculum vitae.
Cover Letter

• Make it Formal
• Make yourself sound awesome!
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  – Your qualifications for the position
  – Indicate what journals you’ve published in
  – Give examples of the kinds of questions you answer with your research
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• End indicating what is included in your application and a list of your ‘letter writers’
CV Grooming

• Most important pieces of information:
  1) Publications and Manuscripts
  2) Awards and Grants
  3) Teaching Experience
  4) Academic Training
  5) Other scholarly activity and outreach

• Keep it clean and neat

• Avoid filler
Research Statement

• 2 pages single-spaced
• Emphasize:
  – Questions
    • What is the ultimate overarching goal of your research?
    • Why is this important
  – Toolbox
    • What methods do you use in your research
    • Analytical models, experiments, bioinformatics, meta-analyses, or how a combination of tools is best
  – Your strengths
    • Demonstrate how you are a leader in your field
    • Cite your research to back up your statements
    • Collaborators that you are working with
    • Funding sources you have procured
Research Statement

- Don’t Underestimate the Power of a Table!

<table>
<thead>
<tr>
<th>Influences on community structure</th>
<th>Macroeckology analyses</th>
<th>Research approaches</th>
<th>Models and simulations</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Scale dependence &amp; environmental heterogeneity</td>
<td>avian patterns of richness and turnover</td>
<td>plant species-time-area relationship (STAR); plant species turnover in response to soil heterogeneity</td>
<td>analytical STAR model; fractal simulations of environmental landscape heterogeneity</td>
</tr>
<tr>
<td>2. Biotic interactions</td>
<td>avian patterns of richness and turnover</td>
<td></td>
<td>community thinning effects on richness-biomass relationship</td>
</tr>
<tr>
<td>3. Natural &amp; human-mediated disturbance</td>
<td></td>
<td>plant responses to fire and grazing; avian responses to tornado</td>
<td></td>
</tr>
</tbody>
</table>
Teaching Philosophy

• Speak from experience
  – Statements like: “In my classrooms I use…” are better than “I think a teacher should be…”

• Don’t be careless
Teaching Philosophy

- If lacking formal teaching experience draw upon your experiences mentoring groups of students or younger scientists
  - Use your postdoc to get some teaching experience even if it’s just guest lecturing or helping on a field trip
Letters of Recommendation

1) how well this person can represent you and
2) how their letter will be perceived

• Have a 4th back-up letter writer in store in case they ask for an additional letter or someone flakes on you

• Don’t feel guilty asking for letters after they have been written
Faculty Phone/Skype Interview

- Typically will be with between 4 and 8 people should be ~ 45 minutes
- Why X school?
- What is your research vision?
- Don’t you need Y to answer that question not Z?
- You study Q, we don’t have Q here what are you going to study?
- Describe a course you would teach?
- How will you fund your research?
Faculty Interview

• Typically a multi-day affair
• Get some nice clothes
• Prepare Research Talk
• May need to prepare Teaching Talk
• Research the Department! Especially those in your field
• Be confident, excited, and attentive, but don’t ooze your enthusiasm to the nth degree
Faculty Interview

• Your always “on”!
  – The interview does not stop until you arrive back at your home

• Prepare and practice a 60 second description of your research

• Prepare questions for:
  – 1) Dean, 2) Dept. Head, 3) Full Profs, 4) Asst. Profs, 5) Grad Students

• Mail thank-you cards when its all over.
Research Talk ~ 45 min.

• Introduction – 10 minutes
  – Get them excited about who you are
  – Introduce why your work is important

• Meat – 25 minutes
  – Typically 2 cohesive and complete studies

• Future Directions – 10 minutes
  – Broader direction you are taking your work
  – Example of a specific study you would start on after joining their faculty
Interactive Portion of the Talk!

• You have 60 seconds to …
  – Shake hands with a neighbor
  – Introduce yourself
  – Describe your research in non-technical terms

• We will then switch
Now Give Feedback

• Rate the handshake
• How was their
  – Confidence
  – Enthusiasm
• Can you describe:
  what they do research on?
Thanks! Questions?
"Academic" Salaries

Actual average and median salaries at U.S. Doctoral-granting Universities

Notes: Administrator figures are medians salaries, the rest are averages. All figures in 2008 dollars. Sources: College and University Professional Association